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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,451

09/22/2003

Gregory Kent Williams

229278

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7590

02/27/2009

LEYDIG, VOIT & MAYER, LTD  
TWO PRUDENTIAL PLAZA, SUITE 4900  
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CHICAGO, IL 60601-6731

EXAMINER

HOEKSTRA, JEFFREY GERBEN

ART UNIT

PAPER NUMBER

3736

MAIL DATE

DELIVERY MODE

02/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,451	<b>Applicant(s)</b> WILLIAMS ET AL.	
	<b>Examiner</b> JEFFREY G. HOEKSTRA	<b>Art Unit</b> 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In view of the Appeal brief filed on 12/03/2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

2. The current rejections of the claim(s) 1, 3-12, and 14-20 is/are *withdrawn*. The following new grounds of rejection are set forth:

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1, 3, 4, 7, 8, 9, 12, 14, 17, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valley et al. (US 5,795,325, hereinafter Valley) in view of Van Erp (US 5,591,142).

5. For claims 1, 3, 4, 7, 12, 14, and 17, Valley discloses a sensor catheter (as best seen in Figures 7A-7C), comprising *inter alia*:

- an elongate flexible member comprising a catheter (300) having proximal and distal ends (as best seen in Figures 7A-7C), wherein the proximal end of the catheter is adapted to be coupled to a processing unit (335) (as best seen in Figures 7A-7C);
- a distally disposed sensor assembly (330, 331, and 350) disposed at the distal end of the catheter (as best seen in Figures 7A-7C); and
- a plurality of wires (334, 336, 352, 354, 339, and 341) extending from the proximal end of the catheter to the distal end of the catheter and coupled to the sensor assembly by an electrical connector (338, 340, 356, and 358) (as best seen in Figures 7A-7C),
- wherein the plurality of wires are divided into first (334 and 336), second (352 and 354), and third (339 and 341) wire bundles with each bundle consisting of a pair of twisted wires (column 17 line 7 – column 19 line 26) spiraled along the length of the catheter (column 19 lines 13-26),
- wherein each of the three bundle has multiple wires twisted together (column 19 lines 13-26) and each of the three bundles are disposed within an outer assembly sheath (304) having an inner wall (302) forming a space (as best seen in Figures 7B-7C) containing the first, second, and third wire bundles of the plurality of wires (as best seen in Figures 7B-7C),

- wherein each of the wires within each bundle is twisted together to reduce electromagnetic interference (column 19 lines 13-26), and
- wherein the plurality of wires are capable of carrying control signals transmitted to the sensor assembly and sensor signals transmitted from the sensor assembly (column 17 line 7 – column 19 line 26).

6. For claims 1, 3, 4, 7, 8, 9, 12, 14, 17, 18, and 19, Valley discloses the claimed sensor catheter, as set forth and cited above, except for expressly disclosing the first, second, and third wire bundles are twisted together, the outer assembly sheath comprises an outer conductor assembly sheath, and the third wire bundle consists of three wires.

7. For claims 1, 3, 4, 7, 8, 9, 12, 14, 17, 18, and 19, Van Erp teaches a sensor catheter (abstract), comprising *inter alia*: a catheter (3) adapted to be coupled to a processing unit (8) (as best seen in Figure 1), a distally disposed sensor (5 or 9) (as best seen in Figures 2A-2B), and a plurality of wires (11) coupling the sensor to the processing unit (as best seen in Figure 1), wherein the plurality of wires (11) comprises more than three wire bundles (10) (as best seen in Figure 5), wherein at least one of the wire bundles consists of three wires (as best seen in Figures 3-5) (column 3 lines 17-28), wherein the more than three wire bundles are twisted together (as best seen in Figure 5) and disposed within an outer conductor assembly sheath (18) (column 4 lines 25-30), wherein the bundles of multiple wires (10) are twisted together to reduce electromagnetic interference (column 3 line 58 – column 4 line 30),

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8. Thus for claims 1, 3, 4, 7, 8, 9, 12, 14, 17, 18, and 19, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. All of the component parts are known in Valley and Van Erp. The only difference is the combination of the component parts into a single device. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the components as taught by Valley with the components as taught by Van Erp to achieve the predictable results of reducing electromagnetic interference (e.g. wire-to-wire cross-talk) by configuring a sensing catheter with an alternative wiring arrangement.

9. Claims 5, 6, 10, 11, 15, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valley in view of Van Erp, as applied to claims 1, 3, 4, 7, 8, 9, 12, 14, 17, 18, and 19 above, and in further view of Taylor et al. (US 5,374,782, hereinafter Taylor).

10. For claims 5, 6, 10, 11, 15, 16, and 20, Valley in view of Van Erp discloses the claimed invention, as set forth and cited above, except for expressly disclosing

- the pair of wires comprising the first wire bundle are twisted together in a clockwise direction,
- the pair of wires comprising the first wire bundle are twisted together in a counter-clockwise direction,

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- the wires in the first wire bundle are twisted together in a first clockwise direction and the wires in the second wire bundle are twisted together in a second, substantially opposite counter-clockwise direction, or
- the wires in the first wire bundle are twisted together in a first direction and the wires in the second wire bundle are twisted together in the first direction, and the first and second wire bundles are twisted together in a second direction substantially opposite to the first direction.

11. For claims 5, 6, 10, 11, 15, 16, and 20, Taylor teaches twisted wire configurations for reducing electromagnetic interference (column 1 lines 4-55), comprising *inter alia*:

- a pair of wires (11) comprising a first wire bundle (as best seen in Figure 1) are twisted together in a clockwise direction (column 2 lines 6-48),
- the pair of wires comprising the first wire bundle (as best seen in Figure 1) are twisted together in a counter-clockwise direction (column 2 lines 6-48),
- the wires in the first wire bundle are twisted together in a first clockwise direction (as best seen in Figure 1) (column 2 lines 6-48) and the wires in a second wire bundle (11) are twisted together in a second, substantially opposite counter-clockwise direction (as best seen in Figure 1) (column 2 lines 6-48), and
- the wires in the first wire bundle are twisted together in a first direction (as best seen in Figure 1) (column 2 lines 6-48) and the wires in the second wire bundle are twisted together in the first direction (column 2 lines 6-48), and the first and second wire bundles are twisted together in a second direction substantially opposite to the first direction (column 2 lines 6-48).

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12. Thus for claims 5, 6, 10, 11, 15, 16, and 20, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. All of the component parts are known in Valley in view of Van Erp and Taylor. The only difference is the combination of the component parts into a single device. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the components as taught by Valley in view of Van Erp with the components as taught by Taylor to achieve the predictable results of reducing electromagnetic interference (e.g. wire-to-wire cross-talk) by configuring a sensing catheter with an alternative wiring arrangement known to reduce electromagnetic interference.

### ***Response to Arguments***

13. Applicant's arguments with respect to claims 1, 3-12, and 14-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY G. HOEKSTRA whose telephone number is (571)272-7232. The examiner can normally be reached on Monday through Friday 8am to 5pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571)272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jeffrey G Hoekstra/  
Examiner, Art Unit 3736

/Max Hindenburg/  
Supervisory Patent Examiner, Art Unit 3736